Appl. No. 10/613,655
Amdt. dated November 19, 2007
Reply to Office Action of October 16, 2007

Atty. Ref. 81710.0254
Customer No. 26021

Remarks/Arguments

Reconsideration of this application is requested.

Claim Status

Claims 1-20 are pending. Claims 4 and 10 are amended.

Claim Rejections – 35 USC 112

Claims 4 and 10 are rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. In response, claims 4 and 10 are amended to clarify that, "the image data is divided into sections in a sub-scanning direction for each N lines, wherein N increases as the resolution of the image data becomes higher." This feature finds clear support in paragraphs 0027 and 0028 of applicant's specification. Thus, the rejection under 35 USC 112 should be withdrawn.

Claim Rejections – 35 USC 102

Claims 1-20 are rejected under 35 USC 102(e) as anticipated by Terada (US 6,873,436). In response, applicant traverses the rejections and submits that the claims as filed distinguish over all references of record.

The present invention is directed to an image processing device which appropriately and automatically determines whether or not to eliminate isolated points for image data to be processed. As disclosed in the flowchart of FIG. 5, after receiving image data in step S200, a plurality of isolated points are detected for each page of image data (step S201 and S202). For each page of data, if the number of isolated points are at or below a threshold value, the isolated points are eliminated by image processing circuit 16 and the page is printed out. However, if the number of isolated points are above the threshold value, the page is printed out with the isolated points (paragraphs 0025-0027). Thus, the isolated points on a page of image data are first detected and then counted before being compared to a threshold value to determine whether or not to eliminate the isolated points.

Importantly, the isolated points are counted and compared to a threshold value _after_ detection. As shown in FIG. 5, isolated points are detected at step S201,

counted and compared at step S204, and then eliminated at step S205. Accordingly, the present invention counts and compares the number of isolated points _after_ detection, unlike conventional solutions which eliminate all isolated points based solely on detection. This distinction is included in each of the independent claims 1, 5, 7, 11 and 13. Claim 1, for example, recites:

> _an isolated point detecting unit that detects isolated points from image data;_
>
> _a counting unit that counts the isolated points detected by the isolated point detecting unit; and_
>
> _an isolated point eliminating unit which eliminates the isolated points from the image data when a number of the counted isolated points reaches a threshold value or less_

Terada clearly does not operate in this manner. Terada is directed to an image processing apparatus that converts an input image into a lower resolution (abstract). The paragraph beginning at column 21, line 50 is directed to a process for detecting and eliminating isolated dots, as shown in step 722 of FIG. 34. In a first comparison of step 722, the color of a detected noticed pixel is compared to the color of peripheral pixels and the number of differences in color are counted. Importantly, the pixels are not isolated dots at the first comparison since the pixel comparison process is directed towards determining isolated dots.

Next, if the counted number of differences in color exceeds a first threshold value, then those noticed pixels having differences in color are counted and compared to a second threshold value (col. 21, lines 53-58). If the counted number of pixels in the second comparison is below the second threshold value, then those pixels are determined to be isolated dots (col. 21, lines 58-61). Therefore, step 722 is directed to isolated dot detection. Finally, Terada discloses that, "the pixels are determined as isolated dots, i.e., noise or dot components, and thereby eliminated." There is no disclosure or suggestion of any counting or comparison _after_ pixels are determined to be isolated dots. Instead, the isolated dots are merely detected and

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then quickly eliminated. Therefore, Terada eliminates all isolated dots based solely on detection. While the detection process for isolated dots requires counting and comparison, there is no such process disclosed _after_ detecting the isolated dots.

In sum, Terada discloses a process whereby pixels are compared to corresponding peripheral pixels and threshold values in order to determine isolated dots. After the isolated dots are determined, they are all eliminated without counting or comparison of the isolated dots to another threshold value. Thus, Terada merely discloses a conventional isolated point elimination process that eliminates isolated points based solely on detection.

Moreover, with respect to dependent claims 2, 6, 8, 12 and 18, those claims require the threshold value to be set at different values according to an image resolution. Terada, by contrast, discloses a gradation characteristic detection process in FIG. 4 and column 9, lines 32-39. In particular, the number of colors in a reference region 26 is compared to a threshold value in step 202 and is accordingly designated as a small, medium or large number of colors. While the threshold value of FIG. 4 and column 9 is directed to color counting, the threshold value of FIG. 34 and column 21 is directed to detecting isolated dots. Therefore, applicant respectfully submits that the color counting threshold value is directed to a characteristic detection processing, which has no correspondence with the isolated dot detection threshold value of the FCR/boundary element candidate selection process. Clearly, a color counting threshold is not pertinent to an isolated dot detection threshold value. Thus, Terada does not disclose or suggest a threshold value set at different values according to an image resolution.

Since Terada does not disclose each and every element of independent claims 1, 5, 7, 11 and 13, it cannot anticipate those claims or claims 2-4, 6, 8-10, 12 and 14-20 dependent thereon. The rejections under 35 USC 102 should be withdrawn.

Conclusion

This application is in condition for allowance. The examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this
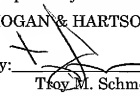
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amendment. Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,

HOGAN & HARTSON L.L.P.

Date: November 19, 2007

By:_____

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